# THE PRELIMINARY STUDY OF THE PHYMATIDAE IN INNER MONGOLIA, CHINA (HEMIPTERA: PHYMATIDAE)

By Nonnaizab*, Nicholas A. Kormilev** and Qi Baoying*

*Abstr. ct*: This paper reports 7 species belonging to two genera in two subfamilies of Phymatidae recorded from Inner Mongolia, among them three are new species: *Cnizocoris mongolicus*, n. sp., *C. unicellularis*, n. sp. and *C. acellularis*, n. sp.. *Phymata crassipes chinensis* Drake, 1947, was raised to the specific rank.

**Key words**: Phymatidae, Heteroptera, Inner Mongolia, new species

From previous reports we know that 35 species & one unindentified, belonging to 8 genera and 3 subfamilies of Phymatidae were recorded from China (Hsiao *et al.*, 1981: 374). But there have no detailed reports about Inner Mongolia Phymatidae. The 1st & 3rd authors collecting in Inner Mongolia identified two genera and 7 species belonging to Phymatinae and Macrocephalinae, among them 3 new species of the genus *Cnizocoris* Handlirsch, 1897. The type specimens of the new species are deposited at the Department of Biology, Teachers' University of Inner Mongolia in Huhe-hot, P. R. China.

1. *Phymata crassipes* (Fabricius), 1775.

*Phymata crassipes* (F.) is widely distributed across Middle and Southern Europe, North Africa, Eastern Siberia, Northern China, Korea and Japan. In Inner Mongolia was recorded from Xing'an League: Irshi; The other Chinese records are: Jilin Province (Changbai Mountains) and Heilongjiang Province (Harbin) (Hsiao *et al.*, 1981).

2. *Phymata chinensis* Drake, 1947.

Distribution: Inner Mongolia (Xing'an League: Irshi). In China was recorded from Beijing, Tianjin, Shandorg and Shanxi (Hsiao *et al.*, 1981).

Drake described *Phymata chinensis* as a species (1947: 145). Kormilev discussed its position and said that it is probably only a subspecies of *crassipes* Fabricius (1951: 50). Maa & Lin synonymized it with *P. crassipes* (F.) (1956: 113). Kormilev after getting a paratype from Drake reduced it to geographical subspecies——*Phymata crassipes chinensis*. Hsiao *et al.*, (1981: 374) accepted the opinion of Kormilev. But in recent years we collected both of these two forms in the same area of Inner Mongolia (Xing'an League: Irshi), so their areas of distribution clearly overlap and they can not be considered as geographical subspecies, but as two different species.

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1. *Cnizocoris mongolicus*, sp. nov.

Figs. 1—2

Female: Elongate ovate; head, anterior border of pronotum, base of scutellum and anterior portions of propleura and mesopleura yellowishly granulate. Hind lobe of pronotum, anterior half of scutellum and corium of hemelytra finely punctured.

**Head** cylindrical, longer than width across eyes (12.5 : 6.7); preocular portion shorter than postocular (3.0:9.5). Distance between ocellus and posterior margin of head longer than between ocelluseyes distance (2.5 : 2). Antennae 2.75 times as long as width across eyes (18.9 : 6.7). In ratios of 0.15 mm. = 1 unit, relative length of antennal segments 5 : 2. 6 : 2. 8 : 8. Antennal segment I cylindrical, granulate dorsally; Ⅰ ovate; Ⅱ inversely coniform; Ⅳ fusiform with light short hairs and acute apex. Eyes rounded, reddish. Labium short and strong; relative length of labial segments 6 : 5. 8 : 3.

**Pronotum** shorter than width across lateral angles (17 : 25). Anterior border sinuate; lateral border of fore lobe straight; anterolateral border of hind lobe convex; posterolateral border wavely sinuate; posterior border slightly sinuate. Fore lobe shorter than hind lobe (8 : 9); anterior angles acutely pointing forwards; carinae on the fore lobe lower; disc of hind lobe swollen and roughly punctured; lateral angles acute, slightly raised upwards; carinae on hind lobe higher and reaching only to middle of disc. Posterior angles minute.

**Scutellum** triangular with blunt tip, slightly longer than its width at base (11 : 10); basal portion swollen and granulate; apical portion flat, finely punctured.

**Hemelytra** not reaching tip of abdomen; corium finely punctured; membrane larger with a small triangular closed cell within a large quadrangular cell.

**Abdomen** broad; almost entire connexivum and a strip of tergum are exposed. Tip of abdomen deeply and roundly incised. Venter very convex, with a few scattered granules.

**Legs** fore femora longer than width (17 : 7); coxa long. Tibiae and tarsus with suberect short hairs.

**Colour** head with 2 (1 + 1) dark brownish longitudinal bands; body light yellowish brown; pronotal carinae yellowish brown on the fore lobe; lateral angles dark brown; scutellum with a black spot at base, apex light coloured. Corium with yellowish anetrolateral border; abdomen light yellowish, posterior border of segment Ⅶ and tip brown; tibiae and tarsus of middle and hind legs reddish, claws brown.

**Measurements**: total length, ♀ 11.25 mm.; width of pronotum 3.75 mm.; width of abdomen 5.55mm.

Holotype: ♀, INNER MONGOLIA, Ulaantsav League; Liangcheng County; Manhan Hills, 1600m.; Nonnaizab coll., Aug. 30, 1986.

*Cnizocoris mongolicus* n. sp. is related to *C. sinensis* Kormilev, 1957, but pronotum relatively broader; anterolateral border of hind lobe convex; corium of hemelytra with one small closed cell and tip of abdomen deeply incised.

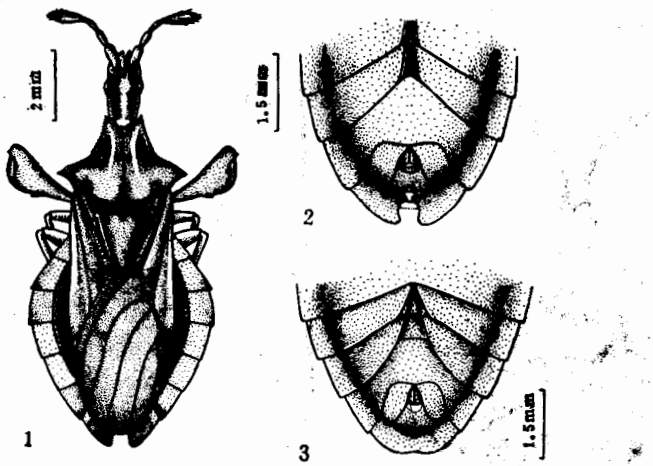
2. *Cnizocoris unicellularis*, sp. nov.

Figs. 4—9.

Male: Elongate ovate; head, middle of the fore lobe of pronotum, anterolateral border, carinae, posterior border, scutellum and the posterior border of mesoplurae granulate; hind lobe of pronotum roughly punctured, scutellum and corium of hemelytra finely punctured.

**Head** about twice as long as its width across eyes (11 : 6); upper surface with a deep pit in the middle; preocular portion shorter than postocular (3 : 5,3); distance between ocelli and posterior

margin of head longer than ocellus-eye distance (3 : 2); head behind eyes slightly wider than anteocular portion. Antennae about 3 × as long as width of head across eyes (19.5 : 6); relative length of antennal segments 4 : 2.5 : 3 : 10. Antennal segment I cylindrical, II obovate, III inversely coniform, IV fusiform, with adpressed short hairs. Labium strong with its tip pointed to middle of prosternum; relative length of labial segments 5 : 5. 4 : 3.5.




Figs. 1—2 *Cnizocoris mongolicus* sp. nov., ♀

Fig. 3 *Cnizocoris sinensis* Kormilev, ♀

**Pronotum** shorter than its width across lateral angles (14.5 : 20); anterior border sinuate; lateral border of fore lobe and anterolateral border of hind lobe straight; posterolateral bordes sinuate twice, posterior border convex; fore and hind lobe about equal in length; anterior angles acute, pointing forwards; lateral angles raised upwards and slightly curved backwards; carinae on the hind lobe short but distinct, reaching middle of disc; posterior angles minute.

**Scutellum** triangular, about as long as its width at base (9 : 8); base slightly swollen and dispersely granulate; apical portion finely punctured; apex blunt.

**Hemelytra** not reachig tip of abdomen; corium finely punctured; membrane with a quadrangular closed cell, 3 × longer than width.

**Abdomen** narrower, only connexivum exposed, slightly arised; posterolateral angles of connexiva IV acute, protruding; tip subtruncate, slightly sinuate. Venter with dispersely granulation.

**Pleurae** sparcely and dispersely granulate.

**Legs** fore femora about twice as long as its width; coxa strong and long; middle and hind femora and tibia with suberected short hairs; tarsus with longer hairs.

**Colour** head black on upper surface; antennae brown with black upper surface on segments I and II; lateral angles of pronotum black, posterior angles yellowish; lateral border of scutellum yellowish; connexivum pale yellow, posteroexterior angles of connexiva, border of connexivum II, the whole connexivum IV, anterior border of V and posterior borders of VI and VII are black; tip of abdomen dark brown; venter with 2 (1 + 1) longitudinal reddish bands; anterior border of pleurae yellowish; granulation yellowish.

**Measurements** total length: ♂—9.0 mm., ♀—10.06 mm.; width of pronotum ♂—3.0 mm., ♀—3.1 mm.; width of abdomen ♂—3.3 mm., ♀—4.65 mm.

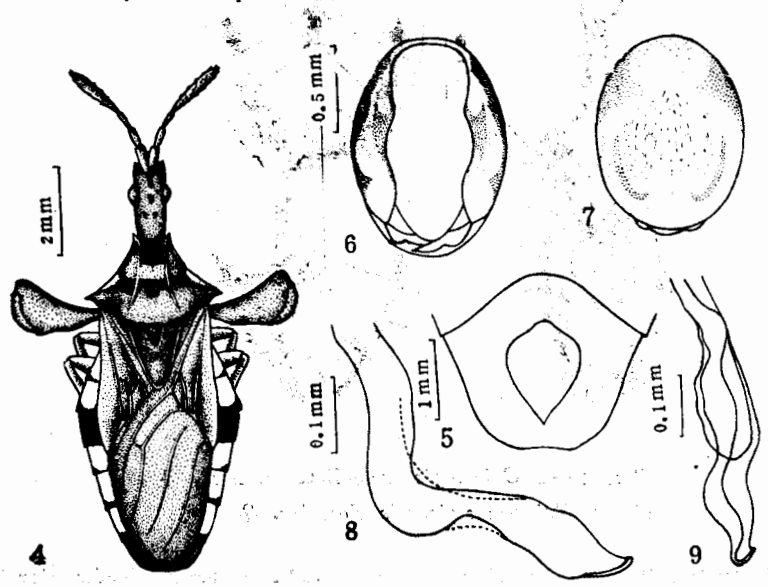
Holotype: ♂, INNER MONGOLIA, Huhe-hot: Lamadong, 1,300 m.; Nonnaizab coll. Sept. 13,

1984.

Allotype: ♀, INNER MONGLIA, Baotou: Jiufeng Mountains, 2,300 m.; Nonnaizab coll., Aug. 29, 1987.

Paratype: ♂, INNER MONGOLIA, Ulaantsav League: Liangcheng County: Manhan Hills, 1,600 m.; Nonnaizab coll., Aug. 30, 1987.

*Cnizocoris unicellularis* n. sp. is related to *C. sinensis* Kormilev, 1957, but membrane has one small closed cell and by different parameres.




Figs. 4—9 *Cnizocoris unicellularis* sp. nov., ♂

3. *Cnizocoris acellularis* sp. nov.

Male: Elongate ovate. Head, antennal segment I, anterior portion of fore lobe of pronotum, posterolateral border of hind lobe and basal portion of scutellum granulate; hind lobe of pronotum and scutellum roughly punctured; corium finely punctured.

**Head** about twice as long as width of head across eyes (11.5 : 6); head with deep pit in the middle; preocular portion shorter (3 : 8.5) and slighily narrower than postocular. Antennae about three and a half times as long as width of the head across eyes; relative length of antennal segments 5 : 2 : 3 : 10; labium strong, relative length of labial segments 5 : 5 : 2.5, its apex pointing the middle of prosternum.

**Pronotum** shorter than its width acorss lateral angles (14.5 : 22.5); anterior border of fore lobe sinuate; lateral border of fore lobe and anterolateral border of hind lobe straight; posterolateral border sinuate and finely granulate; anterior angles acute and pointing forwards; lateral angles acute and distinctly raised upwards; hind lobe convex, carinae higher, reaching 3/4 of disc; posterior angles minute.

*Scutellum* about as long as its basal width and finely punctured; base slightly swollen and granulate; apex blunt.

Hemelytra corium finely punctured, membrane slightly surpassing tip of abdomen.

**Abdomen** with connexivum and a very narrow strip of tergum exposed; posteroexterior angles of connexiva acute, slightly protruding; tip of abdomen almost truncate, slightly sinuate.

**Pleurae** granulate.

**Legs** fore femora 2.6× as long as their width; coxa long and strong, with short, suberected hairs on ventral side; middle and hind femora with sparce, adpressed hairs; tibiae with suberected short hairs on apex and ventral side.

**Colour** body dark brown; head black on dorsal side; antennae brown; labial segments Ⅰ and Ⅱ dark brown on dorsal side, Ⅲ yellowish brown; lateral angles of pronotum dark brown, carinae black; granulation of scutellum yellowish; hind angles yellowish; middle of scutellum with black spots, borders yellowish; exterior border of corium yellowish at base; connexivum and exposed portion of tergum yellowish; posterior angles of connexiva, posterior border of connexivum Ⅲ, entire connexivum Ⅳ, anterior border of Ⅴ, posterior border of Ⅶ and tip of the abdomen black; venter pale yellow with whitish powder and with 2 (1 + 1) red bands; pleurae with yellowish granulation; legs brown, tibiae yellowish brown, tarsus and claws also yellowish brown.

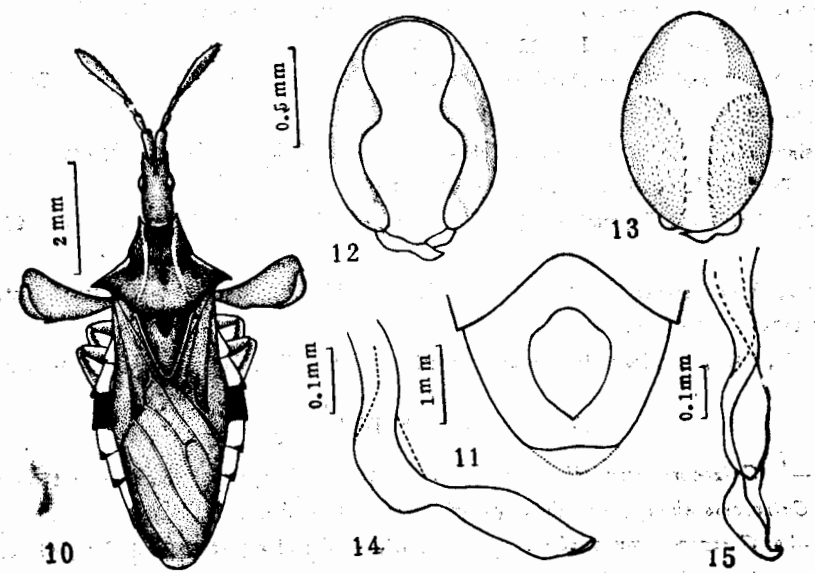
**Measurements** ♂, total length 9.30 mm.; width of pronotum 3.33 mm.; width of abdomen 3.75 mm.

**Holotype**, ♂, INNER MONGOLIA, Ulaantsav League: Liangcheng County: Manhan Hills, 1,600 m.; Nonnaizab coll. Aug. 30, 1986.

**Allotype**, ♀, INNER MONGOLIA, Huhe-hot: Xiaojinggou, 1,350 m.; Liu Qiang coll. Aug. 30, 1987.

**Paratype**, ♂, INNER MONGOLIA, Huhe-hot: Xiaojinggou, 1,350 m.; Liu Qiang coll. Aug. 30, 1987.

*Cnizocoris acellularis* n. sp. is related to *C. sinensis* Kormilev, 1957, but lateral angles of pronotum distinctly raised; hemelytra surpassing tip of abdomen; parameres different. This species is also related to *C. unicellularis* n. sp., but without small closed cells on membrane and with different parameres.




Figs. 10—15 *Cnizocoris acellularis* sp. nov., ♂

4. *Cnizocoris shanxiensis* Hsiao *et* Liu, 1979.

Distribution: INNER MONGOLIA, Huhe-hot: Daqing Mountains; Baotou: Badgar Monastery; Ulaantsav League: Manhan Hills. Hsiao & Liu (1979) and Hsiao *et al.*, (1981) recorded it from

Shanxi province.

5. *Cnizocoris sinensis* Kormilev, 1957.

Distribution: INNER MONGOLIA, Huhe-hot: Daqing Mountains; Baotou: Badgar Monastery; Jiufeng Mountains; Ulaantsav League: Manhan Hills. Hsiao *et al.*, (1981) recorded it from Hubei Province.

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## EXPLANATION OF DRAWINGS.

Figs. 1—2 *Cnizocoris mongolicus* sp. nov., ♀, 1. dorsal aspect 2. ventral aspect of abdomen.

Fig. 3 *Cnizocoris sinesis* Kormilev, ♀, ventral aspect of abdomen.

Figs. 4—9 *Cnizocoris unicellularis* sp. nov., ♂, 4. dorsal aspect 5. ventral aspect of tip of abdomen 6. genital segment dorsal view 7. genital segment ventral view 8. paramere dorsal view 9. paramere side view.

Figs. 10—15 *Cnizocoris acellularis* sp. nov., ♂, 10. dorsal aspect 11. tip of the abdomen ventral aspect 12. genital segment dorsal view 13. genital segment ventral view 14. paramere dorsal view 15. paramere side view.

# 内蒙古瘤蝽科昆虫的初步研究

## （半翅目：瘤蝽科）

能乃扎布 Nicholas A. Kormilev 齐宝瑛

**摘　要**

本文记载了内蒙古瘤蝽科昆虫7种，分别隶属于2亚科、2属，其中包括了蒙蝽瘤蝽 *Cnizocoris mongolicus* sp. nov.、单室蝽瘤蝽 *C. unicellularis* sp. nov.和无室蝽瘤蝽 *C. acellularis* sp. nov. 3个新种。另外，对瘤蝽属中 *Phymata crassipes chinensis* Drake, 1957 的分类地位做了订正，视之为独立的种：中国原瘤蝽*Phymata chinensis* Drake.